10/645735

```
=> d his

     (FILE 'HOME' ENTERED AT 16:04:58 ON 15 AUG 2006)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 16:05:27 ON 15 AUG 2006
L1        19848 S RNAI
L2           94 S "RDE-4" OR "RDE 4"
L3           84 S L1 AND L2
L4         1480 S DSRNA (W)BIND?
L5           13 S L3 AND L4
L6            3 DUP REM L5 (10 DUPLICATES REMOVED)
L7           24 DUP REM L3 (60 DUPLICATES REMOVED)
                E MELLO C C/AU
L8          150 S E3
                E FIRE A/AU
L9          288 S E3
                E TABARA H/AU
L10         169 S E3-E6
                E GRISHOK A/AU
L11          65 S E3-E5
L12         599 S L8 OR L9 OR L10 OR L11
L13          36 S L2 AND L12
L14           9 DUP REM L13 (27 DUPLICATES REMOVED)
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 NEWS  3  FEB 27  New STN AnaVist pricing effective March 1, 2006
 NEWS  4  APR 04  STN AnaVist $500 visualization usage credit offered
 NEWS  5  MAY 10  CA/CAplus enhanced with 1900-1906 U.S. patent records
 NEWS  6  MAY 11  KOREAPAT updates resume
 NEWS  7  MAY 19  Derwent World Patents Index to be reloaded and enhanced
 NEWS  8  MAY 30  IPC 8 Rolled-up Core codes added to CA/CAplus and
                  USPATFULL/USPAT2
 NEWS  9  MAY 30  The F-Term thesaurus is now available in CA/CAplus
 NEWS 10  JUN 02  The first reclassification of IPC codes now complete in
                  INPADOC
 NEWS 11  JUN 26  TULSA/TULSA2 reloaded and enhanced with new search and
                  and display fields
 NEWS 12  JUN 28  Price changes in full-text patent databases EPFULL and PCTFULL
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 NEWS 15  JUl 19  Coverage of Research Disclosure reinstated in DWPI
 NEWS 16  AUG 09  INSPEC enhanced with 1898-1968 archive

 NEWS EXPRESS  JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

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FILE 'HOME' ENTERED AT 16:04:58 ON 15 AUG 2006

=> file medline embase biosis biotechds scisearch hcaplus ntis lifesci
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 0.21       0.21

FILE 'MEDLINE' ENTERED AT 16:05:27 ON 15 AUG 2006
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FILE 'EMBASE' ENTERED AT 16:05:27 ON 15 AUG 2006

FILE 'BIOSIS' ENTERED AT 16:05:27 ON 15 AUG 2006

FILE 'BIOTECHDS' ENTERED AT 16:05:27 ON 15 AUG 2006

FILE 'SCISEARCH' ENTERED AT 16:05:27 ON 15 AUG 2006

FILE 'HCAPLUS' ENTERED AT 16:05:27 ON 15 AUG 2006

FILE 'NTIS' ENTERED AT 16:05:27 ON 15 AUG 2006

FILE 'LIFESCI' ENTERED AT 16:05:27 ON 15 AUG 2006


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=> s RNAi
L1       19848 RNAI

=> s "RDE-4" or "RDE 4"
L2          94 "RDE-4" OR "RDE 4"

=> s l1 and l2
L3          84 L1 AND L2

=> s dsRNA (w)bind?
L4        1480 DSRNA (W) BIND?

=> s l3 and l4
L5          13 L3 AND L4

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6            3 DUP REM L5 (10 DUPLICATES REMOVED)

=> d 1-3 ibib ab

L6   ANSWER 1 OF 3     MEDLINE on STN                    DUPLICATE 1
ACCESSION NUMBER:   2006235186     MEDLINE
DOCUMENT NUMBER:    PubMed ID: 16603715
TITLE:              RDE-4 preferentially binds long dsRNA
                    and its dimerization is necessary for cleavage of dsRNA to
                    siRNA.
AUTHOR:             Parker Greg S; Eckert Debra M; Bass Brenda L
CORPORATE SOURCE:   Department of Biochemistry/HHMI, University of Utah, Salt
                    Lake City 84112-5650, USA.
CONTRACT NUMBER:    GM067106 (NIGMS)
                    GM08537 (NIGMS)
SOURCE:             RNA (New York, N.Y.), (2006 May) Vol. 12, No. 5, pp.
                    807-18.  Electronic Publication: 2006-04-07.
                    Journal code: 9509184. ISSN: 1355-8382.
PUB. COUNTRY:       United States
DOCUMENT TYPE:      Journal; Article; (JOURNAL ARTICLE)
```

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200606
ENTRY DATE: Entered STN: 28 Apr 2006
Last Updated on STN: 7 Jun 2006
Entered Medline: 6 Jun 2006

AB In organisms ranging from Arabidopsis to humans, Dicer requires dsRNA-binding proteins (dsRBPs) to carry out its roles in RNA interference (RNAi) and micro-RNA (miRNA) processing. In Caenorhabditis elegans, the dsRBP RDE-4 acts with Dicer during the initiation of RNAi, when long dsRNA is cleaved to small interfering RNAs (siRNAs). RDE-4 is not required in subsequent steps, and how RDE-4 distinguishes between long dsRNA and short siRNA is unclear. We report the first detailed analysis of RDE-4 binding, using purified recombinant RDE-4 and various truncated proteins. We find that, similar to other dsRBPs, RDE-4 is not sequence-specific. However, consistent with its in vivo roles, RDE-4 binds with higher affinity to long dsRNA. We also observe that RDE-4 is a homodimer in solution, and that the C-terminal domain of the protein is required for dimerization. Using extracts from wild-type and rde-4 mutant C. elegans, we show that the C-terminal dimerization domain is required for the production of siRNA. Our findings suggest a model for RDE-4 function during the initiation of RNAi.

L6 ANSWER 2 OF 3 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2004082957 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14972688
TITLE: The nuclear dsRNA binding protein HYL1 is required for microRNA accumulation and plant development, but not posttranscriptional transgene silencing.
AUTHOR: Vazquez Franck; Gasciolli Virginie; Crete Patrice; Vaucheret Herve
CORPORATE SOURCE: Laboratoire de Biologie Cellulaire, Institut Jean-Pierre Bourgin, INRA, 78026 Versailles Cedex, France.
SOURCE: Current biology : CB, (2004 Feb 17) Vol. 14, No. 4, pp. 346-51.
Journal code: 9107782. ISSN: 0960-9822.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200407
ENTRY DATE: Entered STN: 20 Feb 2004
Last Updated on STN: 21 Jul 2004
Entered Medline: 20 Jul 2004

AB MicroRNAs (miRNAs) are 21-24 nucleotides long molecules processed from imperfect double-stranded RNAs (dsRNAs). They regulate gene expression by targeting complementary mRNA for cleavage or interfering with their translation. In Arabidopsis, point mutations in or short truncations of the nuclear DICER-LIKE1 (DCL1) or HEN1 protein reduce miRNA accumulation and increase uncleaved target mRNAs accumulation, resulting in developmental abnormalities. Here, we show that miRNA accumulation also depends on the activity of HYL1, a nuclear dsRNA binding protein. hyl1 mutants exhibit developmental defects overlapping with that of dcl1 and hen1 mutants, suggesting that DCL1, HEN1, and HYL1 act together in the nucleus. We validate additional target mRNAs and show that reduced miRNA accumulation in hyl1 correlates with an increased accumulation of uncleaved target mRNAs, including meristem- and auxin-related genes, providing clues for the developmental abnormalities of hyl1 and for the previous identification of hyl1 as a mutant with altered responses to phytohormones. Lastly, we show that

posttranscriptional transgene silencing occurs in hyl1, suggesting that HYL1 has specialized function in the plant miRNA pathway, whereas the HYL1-related RDE-4 and R2D2 proteins associate with DICER in the cytoplasm and act in the RNAi pathway in C. elegans and Drosophila, respectively.

L6 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2002364170 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12110183
TITLE: The dsRNA binding protein RDE -4 interacts with RDE-1, DCR-1, and a DExH-box helicase to direct RNAi in C. elegans.
AUTHOR: Tabara Hiroaki; Yigit Erbay; Siomi Haruhiko; Mello Craig C
CORPORATE SOURCE: Program in Molecular Medicine, University of Massachusetts Meidcal School, Worcester, MA 1605, USA.
CONTRACT NUMBER: GM58800 (NIGMS)
SOURCE: Cell, (2002 Jun 28) Vol. 109, No. 7, pp. 861-71. Journal code: 0413066. ISSN: 0092-8674.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF480439; GENBANK-AF480440; GENBANK-AY071926
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 12 Jul 2002
Last Updated on STN: 13 Aug 2002
Entered Medline: 12 Aug 2002
AB Double-stranded (ds) RNA induces potent gene silencing, termed RNA interference (RNAi). At an early step in RNAi, an RNaseIII-related enzyme, Dicer (DCR-1), processes long-trigger dsRNA into small interfering RNAs (siRNAs). DCR-1 is also required for processing endogenous regulatory RNAs called miRNAs, but how DCR-1 recognizes its endogenous and foreign substrates is not yet understood. Here we show that the C. elegans RNAi pathway gene, rde-4 , encodes a dsRNA binding protein that interacts during RNAi with RNA identical to the trigger dsRNA. RDE-4 protein also interacts in vivo with DCR-1, RDE-1, and a conserved DExH-box helicase. Our findings suggest a model in which RDE-4 and RDE-1 function together to detect and retain foreign dsRNA and to present this dsRNA to DCR-1 for processing.

=> d his

(FILE 'HOME' ENTERED AT 16:04:58 ON 15 AUG 2006)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 16:05:27 ON 15 AUG 2006
L1 19848 S RNAI
L2 94 S "RDE-4" OR "RDE 4"
L3 84 S L1 AND L2
L4 1480 S DSRNA (W)BIND?
L5 13 S L3 AND L4
L6 3 DUP REM L5 (10 DUPLICATES REMOVED)

=> dup rem l3
PROCESSING COMPLETED FOR L3
L7 24 DUP REM L3 (60 DUPLICATES REMOVED)

=> d 1-24 ibib ab

L7 ANSWER 1 OF 24 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2006235186 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16603715

TITLE: RDE-4 preferentially binds long dsRNA and its dimerization is necessary for cleavage of dsRNA to siRNA.
AUTHOR: Parker Greg S; Eckert Debra M; Bass Brenda L
CORPORATE SOURCE: Department of Biochemistry/HHMI, University of Utah, Salt Lake City 84112-5650, USA.
CONTRACT NUMBER: GM067106 (NIGMS)
GM08537 (NIGMS)
SOURCE: RNA (New York, N.Y.), (2006 May) Vol. 12, No. 5, pp. 807-18. Electronic Publication: 2006-04-07.
Journal code: 9509184. ISSN: 1355-8382.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200606
ENTRY DATE: Entered STN: 28 Apr 2006
Last Updated on STN: 7 Jun 2006
Entered Medline: 6 Jun 2006

AB In organisms ranging from Arabidopsis to humans, Dicer requires dsRNA-binding proteins (dsRBPs) to carry out its roles in RNA interference (RNAi) and micro-RNA (miRNA) processing. In Caenorhabditis elegans, the dsRBP RDE-4 acts with Dicer during the initiation of RNAi, when long dsRNA is cleaved to small interfering RNAs (siRNAs). RDE-4 is not required in subsequent steps, and how RDE-4 distinguishes between long dsRNA and short siRNA is unclear. We report the first detailed analysis of RDE-4 binding, using purified recombinant RDE-4 and various truncated proteins. We find that, similar to other dsRBPs, RDE-4 is not sequence-specific. However, consistent with its in vivo roles, RDE-4 binds with higher affinity to long dsRNA. We also observe that RDE-4 is a homodimer in solution, and that the C-terminal domain of the protein is required for dimerization. Using extracts from wild-type and rde-4 mutant C. elegans, we show that the C-terminal dimerization domain is required for the production of siRNA. Our findings suggest a model for RDE-4 function during the initiation of RNAi.

L7 ANSWER 2 OF 24 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2006185365 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16489184
TITLE: Interacting endogenous and exogenous RNAi pathways in Caenorhabditis elegans.
AUTHOR: Lee Rosalind C; Hammell Christopher M; Ambros Victor
CORPORATE SOURCE: Dartmouth Medical School, Department of Genetics, Hanover, New Hamphsire 03755, USA.
CONTRACT NUMBER: F32GM69186-1 (NIGMS)
GM34028 (NIGMS)
SOURCE: RNA (New York, N.Y.), (2006 Apr) Vol. 12, No. 4, pp. 589-97. Electronic Publication: 2006-02-17.
Journal code: 9509184. ISSN: 1355-8382.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200606
ENTRY DATE: Entered STN: 4 Apr 2006
Last Updated on STN: 7 Jun 2006
Entered Medline: 6 Jun 2006

AB C. elegans contains numerous small RNAs of 21-24 nt in length. The microRNAs (miRNAs) are small noncoding RNAs produced by DCR-1- and ALG-dependent processing of self-complementary hairpin transcripts. Endogenous small interfering RNAs (endo-siRNAs), associated with ongoing

silencing of protein-coding genes in normal worms, are produced by mechanisms that involve DCR-1 but, unlike miRNAs, also involve RDE-2, RDE-3, RDE-4, RRF-1, and RRF-3. The tiny noncoding (tncRNAs) are similar to endo-siRNAs in their biogenesis except that they are derived from noncoding sequences. These endo-siRNA- and tncRNA-based endogenous RNAi pathways involve some components, including DCR-1 and RDE-4, that are shared with exogenous RNAi, and some components, including RRF-3 and ERI-1, that are specific to endogenous RNAi. rrf-3 and eri-1 mutants are enhanced for some silencing processes and defective for others, suggesting cross-regulatory interactions between RNAi pathways in C. elegans. Microarray expression profiling of RNAi-defective mutant worms further suggests diverse endogenous RNAi pathways for silencing different sets of genes.

L7 ANSWER 3 OF 24 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:250589 BIOSIS
DOCUMENT NUMBER: PREV200600244497
TITLE: Functional proteomics reveals the biochemical niche of C-elegans DCR-1 in multiple small-RNA-mediated pathways.
AUTHOR(S): Duchaine, Thomas F.; Wohlschlegel, James A.; Kennedy, Scott; Bei, Yanxia; Conte, Darryl Jr; Pang, KaMing; Brownell, Daniel R.; Harding, Sandra; Mitani, Shohei; Ruvkun, Gary; Yates, John R. III; Mello, Craig C. [Reprint Author]
CORPORATE SOURCE: Univ Massachusetts, Sch Med, Program Mol Med, Worcester, MA 01605 USA
craig.mello@umassmed.edu
SOURCE: Cell, (JAN 27 2006) Vol. 124, No. 2, pp. 343-354.
CODEN: CELLB5. ISSN: 0092-8674.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Apr 2006
Last Updated on STN: 26 Apr 2006

AB In plants, animals, and fungi, members of the Dicer family of RNase III-related enzymes process double-stranded RNA (dsRNA) to initiate small-RNA-mediated gene-silencing mechanisms. To learn how C. elegans Dicer, DCR-1, functions in multiple distinct silencing mechanisms, we used a mass-spectrometry-based proteomics approach to identify DCR-1-interacting proteins. We then generated and characterized deletion alleles for the corresponding genes. The interactors are required for production of three species of small RNA, including (1) small interfering RNAs (siRNAs), derived from exogenous dsRNA triggers (exo-siRNAs); (2) siRNAs derived from endogenous triggers (endo-siRNAs); and (3) developmental regulatory microRNAs (miRNAs). One interactor, the conserved RNA-phosphatase homolog PIR-1, is required for the processing of a putative amplified DCR-1 substrate. Interactors required for endo-siRNA production include ERI-1 and RRF-3, whose loss of function enhances RNAi Our findings provide a first glimpse at the complex biochemical niche of Dicer and suggest that competition exists between DCR-1-mediated small-RNA pathways.

L7 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:15883 HCAPLUS
DOCUMENT NUMBER: 142:87587
TITLE: Mammalian embryonic stem (ES) cells having enhanced RNAi effect
INVENTOR(S): Katsuki, Motoya; Ishida, Mitsuyoshi; Kato, Minoru
PATENT ASSIGNEE(S): Mitsubishi Chemical Corporation, Japan
SOURCE: U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part of Appl. No. PCT/JP02/11831.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005003541	A1	20050106	US 2004-844406	20040513
JP 2003144141	A2	20030520	JP 2001-348705	20011114
WO 2003042382	A1	20030522	WO 2002-JP11831	20021113

W: US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR

PRIORITY APPLN. INFO.: JP 2001-348705 A 20011114
WO 2002-JP11831 A2 20021113

AB The object of the present invention is to provide ES cells and mammals having enhanced RNAi effect, which can be used to analyze gene functions at an individual level. The present invention provides ES cells having enhanced RNAi effect, which are obtained by performing genetic manipulation on ES cells.

L7 ANSWER 5 OF 24 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:380482 BIOSIS
DOCUMENT NUMBER: PREV200600385781
TITLE: RNAi beginnings, overview of the pathway in C-elegans.
AUTHOR(S): Grishok, Alla [Reprint Author]
CORPORATE SOURCE: MIT, Ctr Canc Res, 40 Ames St, Cambridge, MA 02139 USA
agrishok@mit.edu
SOURCE: Appasani, K [Editor]. (2005) pp. 17-28. RNA Interference Technology: From Basic Science to Drug Development.
Publisher: CAMBRIDGE UNIV PRESS, 40 WEST 20TH ST, NEW YORK, NY 10011 USA.
ISBN: 0-521-83677-8(H).
DOCUMENT TYPE: Book; (Book Chapter)
LANGUAGE: English
ENTRY DATE: Entered STN: 2 Aug 2006
Last Updated on STN: 2 Aug 2006

L7 ANSWER 6 OF 24 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 3
ACCESSION NUMBER: 2006:152965 BIOSIS
DOCUMENT NUMBER: PREV200600153005
TITLE: An antiviral role for the RNA interference machinery in Caenorhabditis elegans.
AUTHOR(S): Schott, Daniel H.; Cureton, David K.; Whelan, Sean P.; Hunter, Craig P. [Reprint Author]
CORPORATE SOURCE: Harvard Univ, Dept Mol and Cellular Biol, Cambridge, MA 02138 USA
hunter@mcb.harvard.edu
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (DEC 20 2005) Vol. 102, No. 51, pp. 18420-18424.
CODEN: PNASA6. ISSN: 0027-8424.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 1 Mar 2006
Last Updated on STN: 1 Mar 2006

AB RNA interference (RNAi) is a sequence-specific gene-silencing mechanism triggered by exogenous dsRNA. In plants an RNAi-like mechanism defends against viruses, but the hypothesis that animals possess a similar natural antiviral mechanism related to RNAi remains relatively untested. To test whether genes needed for RNAi defend animal cells against virus infection, we infected wild-type and RNAi-defective cells of the nematode C elegans with vesicular stomatitis virus engineered to encode a GFP fusion protein. We show that

upon infection, cells lacking components of the RNAi apparatus produce more GFP and infective particles than wild-type cells. Furthermore, we show that mutant cells with enhanced RNAi produce less GFP. Our observation that multiple genes required for RNAi are also required for resistance to vesicular stomatitis virus suggests that the RNAi machinery functions in resistance to viruses in nature.

L7 ANSWER 7 OF 24 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2005441203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16107852
TITLE: RNA interference is an antiviral defence mechanism in Caenorhabditis elegans.
AUTHOR: Wilkins Courtney; Dishongh Ryan; Moore Steve C; Whitt Michael A; Chow Marie; Machaca Khaled
CORPORATE SOURCE: Department of Microbiology, University of Arkansas for Medical Sciences, Little Rock, Arkansas 72205, USA.
SOURCE: Nature, (2005 Aug 18) Vol. 436, No. 7053, pp. 1044-7. Journal code: 0410462. E-ISSN: 1476-4687.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200509
ENTRY DATE: Entered STN: 19 Aug 2005
Last Updated on STN: 8 Sep 2005
Entered Medline: 7 Sep 2005

AB RNA interference (RNAi) is an evolutionarily conserved sequence-specific post-transcriptional gene silencing mechanism that is well defined genetically in Caenorhabditis elegans. RNAi has been postulated to function as an adaptive antiviral immune mechanism in the worm, but there is no experimental evidence for this. Part of the limitation is that there are no known natural viral pathogens of C. elegans. Here we describe an infection model in C. elegans using the mammalian pathogen vesicular stomatitis virus (VSV) to study the role of RNAi in antiviral immunity. VSV infection is potentiated in cells derived from RNAi-defective worm mutants (rde-1; rde-4), leading to the production of infectious progeny virus, and is inhibited in mutants with an enhanced RNAi response (rrf-3; eri-1). Because the RNAi response occurs in the absence of exogenously added VSV small interfering RNAs, these results show that RNAi is activated during VSV infection and that RNAi is a genuine antiviral immune defence mechanism in the worm.

L7 ANSWER 8 OF 24 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2005137829 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15741313
TITLE: Transcriptional silencing of a transgene by RNAi in the soma of C. elegans.
AUTHOR: Grishok Alla; Sinskey Jina L; Sharp Phillip A
CORPORATE SOURCE: Center for Cancer Research, McGovern Institute, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, USA.
CONTRACT NUMBER: P01-CA42063 (NCI)
P30-CA 14051 (NCI)
R37-GM34277 (NIGMS)
SOURCE: Genes & development, (2005 Mar 15) Vol. 19, No. 6, pp. 683-96. Electronic Publication: 2005-03-01. Journal code: 8711660. ISSN: 0890-9369.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200504

ENTRY DATE: Entered STN: 17 Mar 2005
Last Updated on STN: 19 Apr 2005
Entered Medline: 18 Apr 2005

AB The silencing of transgene expression at the level of transcription in the soma of Caenorhabditis elegans through an RNAi-dependent pathway has not been previously characterized. Most gene silencing due to RNAi in C. elegans occurs at the post-transcriptional level. We observed transcriptional silencing when worms containing the elt-2::gfp/LacZ transgene were fed RNA produced from the commonly used L4440 vector. The transgene and the vector share plasmid backbone sequences. This transgene silencing depends on multiple RNAi pathway genes, including dcr-1, rde-1, rde-4, and rrf-1. Unlike post-transcriptional gene silencing in worms, elt-2::gfp/LacZ silencing is dependent on the PAZ-PIWI protein Alg-1 and on the HP1 homolog Hpl-2. The latter is a chromatin silencing factor, and expression of the transgene is inhibited at the level of intron-containing precursor mRNA. This inhibition is accompanied by a decrease in the acetylation of histones associated with the transgene. This transcriptional silencing in the soma can be distinguished from transgene silencing in the germline by its inability to be transmitted across generations and its dependence on the rde-1 gene. We therefore define this type of silencing as RNAi-induced Transcriptional Gene Silencing (RNAi-TGS). Additional chromatin-modifying components affecting RNAi-TGS were identified in a candidate RNAi screen.

L7 ANSWER 9 OF 24 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2005027594 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15653635
TITLE: RDE-2 interacts with MUT-7 to mediate RNA interference in Caenorhabditis elegans.
AUTHOR: Tops Bastiaan B J; Tabara Hiroaki; Sijen Titia; Simmer Femke; Mello Craig C; Plasterk Ronald H A; Ketting Rene F
CORPORATE SOURCE: Hubrecht Laboratory, Centre for Biomedical Genetics Uppsalalaan 8, 3584 CT Utrecht, The Netherlands.
SOURCE: Nucleic acids research, (2005) Vol. 33, No. 1, pp. 347-55. Electronic Publication: 2005-01-13.
Journal code: 0411011. E-ISSN: 1362-4962.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200502
ENTRY DATE: Entered STN: 19 Jan 2005
Last Updated on STN: 11 Feb 2005
Entered Medline: 10 Feb 2005

AB In Caenorhabditis elegans, the activity of transposable elements is repressed in the germline. One of the mechanisms involved in this repression is RNA interference (RNAi), a process in which dsRNA targets cleavage of mRNAs in a sequence-specific manner. The first gene found to be involved in RNAi and transposon silencing in C.elegans is mut-7, a gene encoding a putative exoribonuclease. Here, we show that the MUT-7 protein resides in complexes of approximately 250 kDa in the nucleus and in the cytosol. In addition, we find that upon triggering of RNAi the cytosolic MUT-7 complex increases in size. This increase is independent of the presence of target RNA, but does depend on the presence of RDE-1 and RDE-4, two proteins involved in small interfering RNA (siRNA) production. Finally, using a yeast two-hybrid screen, we identified RDE-2/MUT-8 as one of the other components of this complex. This protein is encoded by the rde-2/mut-8 locus, previously implicated in RNAi and transposon silencing. Using genetic complementation analysis, we show that the interaction between these two proteins is required for efficient RNAi in vivo. Together these data support a role for the

MUT-7/RDE-2 complex downstream of siRNA formation, but upstream of siRNA mediated target RNA recognition, possibly indicating a role in the siRNA amplification step.

L7 ANSWER 10 OF 24 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
DUPLICATE 7
ACCESSION NUMBER: 2004-12362 BIOTECHDS
TITLE: Inhibiting RNAi response in cell, by contacting cell with dsRNA involved in RNAi response, and inhibiting RNAi response, useful for increasing lifespan or treating premature aging in a subject who has abnormal aging disorder;
RNA interference response inhibition for use in disease therapy and gene therapy
AUTHOR: KENYON C; DILLIN A; MURPHY C
PATENT ASSIGNEE: UNIV CALIFORNIA
PATENT INFO: WO 2004029215 8 Apr 2004
APPLICATION INFO: WO 2003-US30531 26 Sep 2003
PRIORITY INFO: US 2002-413794 26 Sep 2002; US 2002-413794 26 Sep 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-305156 [28]
AB DERWENT ABSTRACT:
NOVELTY - Inhibiting (M1) an RNAi response in a cell, involves contacting the cell with a dsRNA involved in the RNAi response, thus inhibiting an RNAi response in a cell.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) inhibiting (M2) an RNAi response in a subject, involves administering a dsRNA involved in the RNAi response to the subject, thus inhibiting an RNAi response in a cell; (2) increasing (M3) lifespan or treating premature aging in a subject, involves carrying out (M2); and (3) altering (M4) lifespan regulation in a subject, involves contacting the organism with a dsRNA involved in the RNAi response, thus inhibiting an RNAi response in a cell.

BIOTECHNOLOGY - Preferred Method: In (M1), the dsRNA is a dicer (dcr-1) dsRNA, a rde-1 dsRNA, an smg-5 dsRNA, an ego-1 ds RNA, or a rde-4 ds RNA. The inhibition of the RNAi response in a cell modulates an age-associated parameter, expression of a lifespan associated gene chosen from cellular stress-response gene, an antimicrobial gene, a metabolic gene, a steroid or lipid-soluble hormone synthesis gene, a fatty acid desaturation gene or its homolog or ortholog. The inhibition of the RNAi response modulates the expression of a lifespan associated gene chosen from cytochrome P450, an estradiol-17-beta-dehydrogenase, a alcohol/short-chain dehydrogenase, an esterase, a UDP-glucuronosyltransferase, an aminopeptidase, a carboxypeptidase, an amino-oxidase, an aminoacylase, an oligopeptide transporter, metallothionein, a receptor guanylate cyclase, a mitochondrial superoxide dismutase, a catalase, lysozyme, saposin, vitellogenin, glutathione-S-transferase, heat-shock protein, heat-shock factor, an F-box/cullin/Skp protein, an isocitrate lyase, a malate synthase ASMTL, insulin, IFG1 or IFG2 or its homolog or ortholog. The dcr-1 is human dcr-1, or C. elegans dcr-1. The age-associated parameter is lifespan. The modulation is inhibition of aging. The homolog or ortholog is a human homolog or ortholog.

ACTIVITY - Dermatological; Vasotropic; Nootropic; Cytostatic.

MECHANISM OF ACTION - Inhibitor of RNAi response (claimed). The ability of dicer dsRNA to inhibit RNAi response in a cell was determined. To lower daf-2 activity during the larval stages only, wild-type animals were grown on bacteria expressing daf-2 ds RNA and then shifted to bacteria expressing dcr-1 dsRNA as day 1 adults. Control animals were grown during development on the RNAi bacteria containing the vector only and then shifted to dcr -1 RNAi bacteria as day 1 adults. Animals were grown at 25 degreesC.

Daf-2 RNA was inactivated using daf-2 specific RNAi. The animals were removed from the environment RNAi stimulus (food bacteria expressing daf-2 dsRNA). The RNAi response continued to exert its effect during the adult stages and caused an increased lifespan. By shifting these animals to dcr-1RNAi in early adulthood, increased lifespan was blocked, by blocking the existing RNAi response against daf-2. In the second experiment loss of mitochondrial electron transport activity during the early development stages caused an increased adult lifespan. In contrast to the daf-2 experiment, this increased lifespan could not be reduced if the animals were shifted to dcr-1 RNAi as adults.

USE - (M1) is useful for inhibiting an RNAi response in a cell. (M2) is useful for inhibiting an RNAi response in a subject which is a mammal, preferably an adult. The mammal is a non-diabetic, non-obese adult who is not at risk for or does not have a premature aging disorder. The mammal is a healthy adult. (M3) is useful for increasing lifespan or treating premature aging in a subject who has abnormal aging disorder such as Werner syndrome, Hutchinson-Guilford disease, Bloom's syndrome, Cockayne's syndrome, ataxia telangiectasia, and Down's syndrome (claimed).

ADMINISTRATION - The dcr-1 dsRNA is administered by parental, oral, inhalation, transdermal or rectal routes of administration. No specific dosage details are given.

EXAMPLE - Total RNA was extracted from approximately 20000 synchronized, sterile animals using trizol. Before harvest, animals were exposed to bacteria containing the RNAi vector or containing the daf-2 RNAi construct from the L1 until the L4 larval stage or from day 8 until day 10 of adulthood. Four mug of total RNA was used for one round of reverse transcription (RT) using oligo dT primers. Serial dilutions of the RT reaction (1:1-1:245) was used for PCR reaction using daf-2 specific primers. RNAi was directed to a non-overlapping 5' end of daf-2. Serial dilutions of the RT reaction (1:1-1:2) was used for PCR reaction using daf-16 specific primers. RNAi was directed to a non-overlapping 5' end of daf-16. Four mul of a 50 mul PCR reaction was analyzed on agarose gels using ethidium bromide. Wild-type hermaphrodites were allowed to lay eggs onto the control RNAi bacteria or daf-2 RNAi bacteria at 20 degreesC. The eggs were then shifted to 27 degreesC and the presence of dauer larvae were scored 48 hours later when animals would normally be reproductive adults. Lifespan, reproduction and stress assays were conducted at 20 degreesC. The total number of progeny born to a single worm over time was measured. Briefly, worms hatched within a 1 hour period was collected and allowed to develop to the L4 stage. Once in the L4 stage, worms were individually placed onto separate plates. In all cases, at least 15 worms were used for each analysis. Worms were transferred to new plates every 12 hours and the resulting progeny were allowed to grow for two days until counted for progeny measurements. The % of total progeny was calculated for each time point by dividing the number of progeny produced on a time point by the total number of progeny produced over the course of the experiment. (70 pages)

L7 ANSWER 11 OF 24 MEDLINE on STN DUPLICATE 8

ACCESSION NUMBER: 2004082957 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14972688
TITLE: The nuclear dsRNA binding protein HYL1 is required for microRNA accumulation and plant development, but not posttranscriptional transgene silencing.
AUTHOR: Vazquez Franck; Gasciolli Virginie; Crete Patrice; Vaucheret Herve
CORPORATE SOURCE: Laboratoire de Biologie Cellulaire, Institut Jean-Pierre Bourgin, INRA, 78026 Versailles Cedex, France.
SOURCE: Current biology : CB, (2004 Feb 17) Vol. 14, No. 4, pp. 346-51.
Journal code: 9107782. ISSN: 0960-9822.

PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200407
ENTRY DATE: Entered STN: 20 Feb 2004
Last Updated on STN: 21 Jul 2004
Entered Medline: 20 Jul 2004

AB MicroRNAs (miRNAs) are 21-24 nucleotides long molecules processed from imperfect double-stranded RNAs (dsRNAs). They regulate gene expression by targeting complementary mRNA for cleavage or interfering with their translation. In Arabidopsis, point mutations in or short truncations of the nuclear DICER-LIKE1 (DCL1) or HEN1 protein reduce miRNA accumulation and increase uncleaved target mRNAs accumulation, resulting in developmental abnormalities. Here, we show that miRNA accumulation also depends on the activity of HYL1, a nuclear dsRNA binding protein. hyl1 mutants exhibit developmental defects overlapping with that of dcl1 and hen1 mutants, suggesting that DCL1, HEN1, and HYL1 act together in the nucleus. We validate additional target mRNAs and show that reduced miRNA accumulation in hyl1 correlates with an increased accumulation of uncleaved target mRNAs, including meristem- and auxin-related genes, providing clues for the developmental abnormalities of hyl1 and for the previous identification of hyl1 as a mutant with altered responses to phytohormones. Lastly, we show that posttranscriptional transgene silencing occurs in hyl1, suggesting that HYL1 has specialized function in the plant miRNA pathway, whereas the HYL1-related RDE-4 and R2D2 proteins associate with DICER in the cytoplasm and act in the RNAi pathway in C. elegans and Drosophila, respectively.

L7 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:240580 HCAPLUS
DOCUMENT NUMBER: 141:49068
TITLE: RNA interference: a practical approach
AUTHOR(S): Duxbury, Mark S.; Whang, Edward E.
CORPORATE SOURCE: Brigham and Women's Hospital, Department of Surgery, Harvard Medical School, Boston, MA, 02115, USA
SOURCE: Journal of Surgical Research (2004), 117(2), 339-344
CODEN: JSGRA2; ISSN: 0022-4804
PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review. Few new mol. biol. techniques have advanced to find practical application as rapidly as RNA interference (RNAi). RNAi denotes the highly specific posttranslational silencing of gene expression that occurs in response to the introduction of double-stranded RNA into a cell. The purpose of this review is to present practical guidelines for designing and executing RNAi expts. We summarize the mechanisms underlying RNAi in mammalian cells and focus on practical advice for investigators conducting RNAi expts. We suggest criteria to help select a suitable target gene sequence, define the structural characteristics of effective siRNAs, discuss transfection strategies, and describe exptl. design, including important control methods. RNAi represents a powerful tool for determining the functions of specific genes.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 24 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
DUPLICATE 9
ACCESSION NUMBER: 2004-00966 BIOTECHDS
TITLE: Novel embryonic stem cell having increased RNA interference effect and obtained by genetically manipulating embryonic stem cells, useful for analysis of gene function in organisms
;
functional genomics study involving use of transfected

stem cell and transgenic animal model

PATENT ASSIGNEE: GENCOM KK
PATENT INFO: JP 2003144141 20 May 2003
APPLICATION INFO: JP 2001-348705 14 Nov 2001
PRIORITY INFO: JP 2001-348705 14 Nov 2001; JP 2001-348705 14 Nov 2001
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
OTHER SOURCE: WPI: 2003-818155 [77]

AB DERWENT ABSTRACT:

NOVELTY - Embryonic stem cell (I) having increased RNA interference (RNAi) effect obtained by genetically manipulating an embryonic stem cell, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a non-human mammal and its off spring derived from (I) or its part.

BIOTECHNOLOGY - Preferred Stem cell: (I) is obtained by introducing a RNAi related gene to an embryonic stem cell. The RNAi related gene is a gene which codes a factor associated with the formation of a sequence specific intermediate, a gene which codes a factor associated with target gene suppression, a gene which codes a RNA dependent RNA polymerase or a gene which codes a helicase. The RNAi related gene is preferably Nematode rde-1 or rde-4 gene, fungi qde-2 gene, Arabidopsis ago-1 gene, a dicer gene or its homolog gene which codes the protein of a PAZ/Piwi family etc., nematode Mut-7 gene, nematode rde-2, fungi qde-1 gene, nematode ego-1 gene, Arabidopsis sgs 2/sde 1 gene, fungi qde-3 gene, nematode smg-2 gene, Chlamydomonas mut 6 gene or Arabidopsis sde 3 gene, more preferably nematode rde-1 gene or Mut-7 gene. (I) is obtained by introducing a expression vector containing a RNAi related gene which can be expressed within a host cell, into an embryonic stem cell. (I) further comprises a recombinant gene (II) which contains a inverse repeat sequence of a target gene that can be expressed in a mammalian cell. (II) is present downstream of a promoter sequence functional in mammalian cell. (II) contains an enhancer sequence in the upstream of the promoter sequence, and further contains an insulator sequence or its fragment. (II) contains a poly A addition signal sequence in the downstream of the inverse repeat sequence of a target gene e.g., exogenous reporter protein or a gene encoding a variant protein. Preferably the exogenous reporter protein is enhanced green fluorescent protein (EGFP). Embryonic stem cell has an accession-number FERM P-18574 or P-18575. Preferred Mammal: The non-human mammal or its offspring is chosen from mouse, rat, hamster, guinea pig, rabbit dog, cat, horse, cow, sheep, pig, goat, and monkey.

USE - (I) is useful for analysis of gene function.

ADVANTAGE - A gene can be suppressed reliably. Related genes can be analyzed rapidly compared to the knock-out method.

EXAMPLE - A embryonic stem cell d2EGFP was established as follows. The target gene encoding enhanced green fluorescent protein (EGFP) was used to establish the stem cell d2EGFP. The d2EGFP expression vector used was pUC19 5', 3' INS24 OCE EGFP. The vector was further inserted with an insulation sequence, a cytomegalovirus (CMV) enhances sequence and an EF-1 alpha sequence inserted to the right side of the BamH I fragment and pd2EGFP 5' INS240 CE was obtained. pd2EGFP 5' INS240 CE was digested using EcoR I and Bsa I and transfected into embryonic stem cell by electroporation method. pd2EGFP embryonic stem cell strain colony was confirmed by the EGFP fluorescence detected using a fluorescence microscope. The embryonic stem cells were cultured by standard methods. Each embryonic stem cell proliferated on the feeder cell was peeled by trypsin-EDTA and cultured in an gelatin coated plate. Then it was transfected using pUC19 5' INS240 EGFP IR having EGFP dsRNA gene containing inverse repeat sequence JP2001046089. A control was built using the plasmid with HPRT (Hypoxanthine phosphoribosyl transferase) dsRNA expression gene (inverse repeat sequence gene). The fluorescence of the cells were analyzed by FACScan. The fluorescence reduction was compared with the control which does not contain the gene. The results showed that the fluorescent reduction of the cell raises 28% compared to

the control.(17 pages)

L7 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:417858 HCAPLUS
DOCUMENT NUMBER: 139:1986
TITLE: Facilitation of RNA interference (RNAi) in mammalian cell using invertebrate RNA-dependent RNA polymerase (RdRP) gene family involved in RNAi
INVENTOR(S): Mello, Craig C.; Conte, Darryl, Jr.; Chen, Chun-Chieh
PATENT ASSIGNEE(S): University of Massachusetts, USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2003044168	A2	20030530	WO 2002-US36725		20021115
WO 2003044168	C2	20040506			
WO 2003044168	A3	20040826			
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2002360394	A1	20030610	AU 2002-360394		20021115
US 2003114409	A1	20030619	US 2002-295809		20021115
PRIORITY APPLN. INFO.:			US 2001-333811P	P	20011116
			US 2001-331672P	P	20011119
			WO 2002-US36725	W	20021115

AB The present invention features compns. and methods to induce or enhance RNA interference (RNAi) in cells, systems, and organisms using mols. that mediate RNAi in invertebrates such as Caenorhabditis elegans. The invention is based, in part, on the discovery that members of the C. elegans RNA-dependent RNA polymerase (RdRP) gene family, namily ego-1 and rrf-1 genes, are involved in, and can be essential for, RNAi. Thus, RdRP expression can be used to induce or enhance RNAi in cells, including mammalian cells. RdRP genes can be expressed in combination with one or more of the other genes of the RNAi system, such as Dicer, RDE-1, or RDE-4.

L7 ANSWER 15 OF 24 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:124284 BIOSIS
DOCUMENT NUMBER: PREV200400120663
TITLE: RNAi in Caenorhabditis elegans.
AUTHOR(S): Ketting, Rene F. [Reprint Author]; Tijsterman, Marcel [Reprint Author]; Plasterk, Ronald H. A. [Reprint Author]
CORPORATE SOURCE: Department of Functional Genomics, Hubrecht Laboratory, 3584 CT, Utrecht, Netherlands
SOURCE: Hannon, Gregory J. [Editor, Reprint Author]. (2003) pp. 65-85. RNAi: A guide to gene silencing. print.
Publisher: Cold Spring Harbor Laboratory Press, 1 Bungtown Road, P. O. Box 100, Cold Spring Harbor, NY, 11724-2203, USA.
ISBN: 0-87969-641-9 (cloth).
DOCUMENT TYPE: Book; (Book Chapter)

LANGUAGE: English
ENTRY DATE: Entered STN: 3 Mar 2004
Last Updated on STN: 3 Mar 2004

L7 ANSWER 16 OF 24 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 2003451296 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14512631
TITLE: R2D2, a bridge between the initiation and effector steps of the Drosophila RNAi pathway.
AUTHOR: Liu Qinghua; Rand Tim A; Kalidas Savitha; Du Fenghe; Kim Hyun-Eui; Smith Dean P; Wang Xiaodong
CORPORATE SOURCE: Howard Hughes Medical Institute and Department of Biochemistry, University of Texas Southwestern Medical Center at Dallas, Dallas, TX 75390, USA.
CONTRACT NUMBER: DC02539 (NIDCD)
SOURCE: Science, (2003 Sep 26) Vol. 301, No. 5641, pp. 1921-5. Journal code: 0404511. E-ISSN: 1095-9203.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200310
ENTRY DATE: Entered STN: 28 Sep 2003
Last Updated on STN: 28 Oct 2003
Entered Medline: 27 Oct 2003
AB The RNA interference (RNAi) pathway is initiated by processing long double-stranded RNA into small interfering RNA (siRNA). The siRNA-generating enzyme was purified from Drosophila S2cells and consists of two stoichiometric subunits: Dicer-2(DCR-2) and a previously unknown protein that we named R2D2. R2D2 is homologous to the Caenorhabditis elegans RNAi protein RDE-4. Association with R2D2 does not affect the enzymatic activity of DCR-2. Rather, the DCR-2/R2D2 complex, but not DCR-2 alone, binds to siRNA and enhances sequence-specific messenger RNA degradation mediated by the RNA-initiated silencing complex (RISC). These results indicate that R2D2 bridges the initiation and effector steps of the Drosophila RNAi pathway by facilitating siRNA passage from Dicer to RISC.

L7 ANSWER 17 OF 24 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 2003577668 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14657490
TITLE: Mutations in RNAi rescue aberrant chemotaxis of ADAR mutants.
AUTHOR: Tonkin Leath A; Bass Brenda L
CORPORATE SOURCE: Department of Biochemistry and Howard Hughes Medical Institute, University of Utah, 20 North 1900 East, Salt Lake City, UT 84132-3201, USA.
CONTRACT NUMBER: GM44073 (NIGMS)
SOURCE: Science, (2003 Dec 5) Vol. 302, No. 5651, pp. 1725. Journal code: 0404511. E-ISSN: 1095-9203.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200312
ENTRY DATE: Entered STN: 16 Dec 2003
Last Updated on STN: 30 Dec 2003
Entered Medline: 29 Dec 2003

L7 ANSWER 18 OF 24 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 2002364170 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12110183
TITLE: The dsRNA binding protein RDE-4 interacts with RDE-1, DCR-1, and a DExH-box helicase to

direct RNAi in C. elegans.
AUTHOR: Tabara Hiroaki; Yigit Erbay; Siomi Haruhiko; Mello Craig C
CORPORATE SOURCE: Program in Molecular Medicine, University of Massachusetts Meidcal School, Worcester, MA 1605, USA.
CONTRACT NUMBER: GM58800 (NIGMS)
SOURCE: Cell, (2002 Jun 28) Vol. 109, No. 7, pp. 861-71. Journal code: 0413066. ISSN: 0092-8674.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF480439; GENBANK-AF480440; GENBANK-AY071926
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 12 Jul 2002
Last Updated on STN: 13 Aug 2002
Entered Medline: 12 Aug 2002

AB Double-stranded (ds) RNA induces potent gene silencing, termed RNA interference (RNAi). At an early step in RNAi, an RNaseIII-related enzyme, Dicer (DCR-1), processes long-trigger dsRNA into small interfering RNAs (siRNAs). DCR-1 is also required for processing endogenous regulatory RNAs called miRNAs, but how DCR-1 recognizes its endogenous and foreign substrates is not yet understood. Here we show that the C. elegans RNAi pathway gene, rde-4 , encodes a dsRNA binding protein that interacts during RNAi with RNA identical to the trigger dsRNA. RDE-4 protein also interacts in vivo with DCR-1, RDE-1, and a conserved DExH-box helicase. Our findings suggest a model in which RDE-4 and RDE-1 function together to detect and retain foreign dsRNA and to present this dsRNA to DCR-1 for processing.

L7 ANSWER 19 OF 24 MEDLINE on STN DUPLICATE 13
ACCESSION NUMBER: 2002083629 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11809977
TITLE: RNA helicase MUT-14-dependent gene silencing triggered in C. elegans by short antisense RNAs.
AUTHOR: Tijsterman Marcel; Ketting Rene F; Okihara Kristy L; Sijen Titia; Plasterk Ronald H A
CORPORATE SOURCE: Hubrecht Laboratory, Center for Biomedical Genetics, Uppsalalaan 8, 3584 CT, Utrecht, Netherlands.
SOURCE: Science, (2002 Jan 25) Vol. 295, No. 5555, pp. 694-7. Journal code: 0404511. E-ISSN: 1095-9203.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 28 Jan 2002
Last Updated on STN: 21 Feb 2002
Entered Medline: 20 Feb 2002

AB Posttranscriptional gene silencing in Caenorhabditis elegans results from exposure to double-stranded RNA (dsRNA), a phenomenon designated as RNA interference (RNAi), or from co-suppression, in which transgenic DNA leads to silencing of both the transgene and the endogenous gene. Here we show that single-stranded RNA oligomers of antisense polarity can also be potent inducers of gene silencing. As is the case for co-suppression, antisense RNAs act independently of the RNAi genes rde-1 and rde-4 but require the mutator/ RNAi gene mut-7 and a putative DEAD box RNA helicase, mut-14. Our data favor the hypothesis that gene silencing is accomplished by RNA primer extension using the mRNA as template, leading to dsRNA that is subsequently degraded.

L7 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:300734 HCAPLUS

DOCUMENT NUMBER: 134:321556
TITLE: RNA interference pathway genes as tools for targeted genetic interference
INVENTOR(S): Mello, Craig C.; Fire, Andrew; Tabara, Hiroaki; Grishok, Alla
PATENT ASSIGNEE(S): University of Massachusetts, USA; Carnegie Institution of Washington
SOURCE: PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001029058	A1	20010426	WO 2000-US28470	20001013
W: AU, CA, JP, KR				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2386270	AA	20010426	CA 2000-2386270	20001013
EP 1235842	A1	20020904	EP 2000-972167	20001013
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 2003516124	T2	20030513	JP 2001-531856	20001013
US 2004265839	A1	20041230	US 2003-645746	20030820
US 2005100913	A1	20050512	US 2003-645735	20030820
US 2006024798	A1	20060202	US 2005-144985	20050603

PRIORITY APPLN. INFO.:

US 1999-159776P	P	19991015
US 2000-193218P	P	20000330
US 2000-689992	A3	20001013
WO 2000-US28470	W	20001013

AB Genes involved in double-stranded RNA interference (RNAi pathway genes) are identified and used to investigate the RNAi pathway. RNAi pathway components provide activities necessary for double-stranded RNA-dependent gene silencing (genetic interference). Genes RDE-1 and RDE-4 were identified using screens for Caenorhabditis elegans strains mutant for RNAi, and the mutations are further characterized for germline and somatic effects, effects on transposon mobilization, X chromosome loss and transgene silencing, and target tissue activity. The genes and their products are also useful for modulating RNAi pathway activity.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 21 OF 24 MEDLINE on STN DUPLICATE 14
ACCESSION NUMBER: 2001574258 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11680844
TITLE: Distinct roles for RDE-1 and RDE-4 during RNA interference in Caenorhabditis elegans.
AUTHOR: Parrish S; Fire A
CORPORATE SOURCE: Department of Embryology, Carnegie Institution of Washington, Baltimore, Maryland 21210, USA.
CONTRACT NUMBER: GM07231 (NIGMS)
GM37706 (NIGMS)
SOURCE: RNA (New York, N.Y.), (2001 Oct) Vol. 7, No. 10, pp. 1397-402.
Journal code: 9509184. ISSN: 1355-8382.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 30 Oct 2001

Last Updated on STN: 23 Jan 2002
Entered Medline: 4 Dec 2001

AB RNA interference (RNAi) is a cellular defense mechanism that uses double-stranded RNA (dsRNA) as a sequence-specific trigger to guide the degradation of homologous single-stranded RNAs. RNAi is a multistep process involving several proteins and at least one type of RNA intermediate, a population of small 21-25 nt RNAs (called siRNAs) that are initially derived from cleavage of the dsRNA trigger. Genetic screens in Caenorhabditis elegans have identified numerous mutations that cause partial or complete loss of RNAi. In this work, we analyzed cleavage of injected dsRNA to produce the initial siRNA population in animals mutant for rde-1 and rde-4, two genes that are essential for RNAi but that are not required for organismal viability or fertility. Our results suggest distinct roles for RDE-1 and RDE-4 in the interference process. Although null mutants lacking rde-1 show no phenotypic response to dsRNA, the amount of siRNAs generated from an injected dsRNA trigger was comparable to that of wild-type. By contrast, mutations in rde-4 substantially reduced the population of siRNAs derived from an injected dsRNA trigger. Injection of chemically synthesized 24- or 25-nt siRNAs could circumvent RNAi resistance in rde-4 mutants, whereas no bypass was observed in rde-1 mutants. These results support a model in which RDE-4 is involved before or during production of siRNAs, whereas RDE-1 acts after the siRNAs have been formed.

L7 ANSWER 22 OF 24 MEDLINE on STN
ACCESSION NUMBER: 2000207007 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10741970
TITLE: Genetic requirements for inheritance of RNAi in C. elegans.
AUTHOR: Grishok A; Tabara H; Mello C C
CORPORATE SOURCE: Program in Molecular Medicine, Department of Cell Biology, University of Massachusetts Cancer Center, Two Biotech Suite 213, 373 Plantation Street, Worcester, MA 01605, USA.
CONTRACT NUMBER: GM58800 (NIGMS)
SOURCE: Science, (2000 Mar 31) Vol. 287, No. 5462, pp. 2494-7. Journal code: 0404511. ISSN: 0036-8075.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY DATE: Entered STN: 21 Apr 2000
Last Updated on STN: 21 Apr 2000
Entered Medline: 11 Apr 2000

AB In Caenorhabditis elegans, the introduction of double-stranded RNA triggers sequence-specific genetic interference (RNAi) that is transmitted to offspring. The inheritance properties associated with this phenomenon were examined. Transmission of the interference effect occurred through a dominant extragenic agent. The wild-type activities of the RNAi pathway genes rde-1 and rde-4 were required for the formation of this interfering agent but were not needed for interference thereafter. In contrast, the rde-2 and mut-7 genes were required downstream for interference. These findings provide evidence for germ line transmission of an extragenic sequence-specific silencing factor and implicate rde-1 and rde-4 in the formation of the inherited agent.

L7 ANSWER 23 OF 24 EMBASE DUPLICATE 15
ACCESSION NUMBER: 2000123929 EMBASE
TITLE: Genetic requirements for inheritance of RNAi in

C. elegans.
AUTHOR: Grishok A.; Tabara H.; Mello C.C.
CORPORATE SOURCE: C.C. Mello, Program in Molecular Medicine, Department of Cell Biology, Univ. of Massachusetts Cancer Center, 373 Plantation Street, Worcester, MA 01605, United States. craig.mello@ummed.edu
SOURCE: Science, (31 Mar 2000) Vol. 287, No. 5462, pp. 2494-2497. . ISSN: 0036-8075 CODEN: SCIEAS
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 21 Apr 2000
Last Updated on STN: 21 Apr 2000

AB In Caenorhabditis elegans, the introduction of double-stranded RNA triggers sequence-specific genetic interference (RNAi) that is transmitted to offspring. The inheritance properties associated with this phenomenon were examined. Transmission of the interference effect occurred through a dominant extragenic agent. The wild-type activities of the RNAi pathway genes rde-1 and rde-4 were required for the formation of this interfering agent but were not needed for interference thereafter. In contrast, the rde-2 and mut-7 genes were required downstream for interference. These findings provide evidence for germ line transmission of an extragenic sequence-specific silencing factor and implicate rde-1 and rde-4 in the formation of the inherited agent.

L7 ANSWER 24 OF 24 MEDLINE on STN DUPLICATE 16
ACCESSION NUMBER: 2000004389 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10535731
TITLE: The rde-1 gene, RNA interference, and transposon silencing in C. elegans.
AUTHOR: Tabara H; Sarkissian M; Kelly W G; Fleenor J; Grishok A; Timmons L; Fire A; Mello C C
CORPORATE SOURCE: Department of Cell Biology, Program in Molecular Medicine, University of Massachusetts Cancer Center, Worcester 01605, USA.
CONTRACT NUMBER: GM37706 (NIGMS)
GM58800 (NIGMS)
HD08353 (NICHD)
SOURCE: Cell, (1999 Oct 15) Vol. 99, No. 2, pp. 123-32. Journal code: 0413066. ISSN: 0092-8674.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF180730
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 11 Jan 2000
Last Updated on STN: 11 Jan 2000
Entered Medline: 10 Nov 1999

AB Double-stranded (ds) RNA can induce sequence-specific inhibition of gene function in several organisms. However, both the mechanism and the physiological role of the interference process remain mysterious. In order to study the interference process, we have selected C. elegans mutants resistant to dsRNA-mediated interference (RNAi). Two loci, rde-1 and rde-4, are defined by mutants strongly resistant to RNAi but with no obvious defects in growth or development. We show that rde-1 is a member of the piwi/sting/argonaute/zwille/eIF2C gene family conserved from plants to vertebrates. Interestingly, several, but not all, RNAi -deficient strains exhibit mobilization of the endogenous transposons. We discuss implications for the mechanism of RNAi and the

possibility that one natural function of RNAi is transposon silencing.

```
=> d his

     (FILE 'HOME' ENTERED AT 16:04:58 ON 15 AUG 2006)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 16:05:27 ON 15 AUG 2006
L1         19848 S RNAI
L2            94 S "RDE-4" OR "RDE 4"
L3            84 S L1 AND L2
L4          1480 S DSRNA (W)BIND?
L5            13 S L3 AND L4
L6             3 DUP REM L5 (10 DUPLICATES REMOVED)
L7            24 DUP REM L3 (60 DUPLICATES REMOVED)

=> e mello c c/au
E1             5      MELLO C B M/AU
E2             2      MELLO C B M DE/AU
E3           150 --> MELLO C C/AU
E4             1      MELLO C DE/AU
E5             9      MELLO C E B/AU
E6           184      MELLO C F/AU
E7             2      MELLO C G D/AU
E8            14      MELLO C J/AU
E9             5      MELLO C L/AU
E10           69      MELLO C M/AU
E11            1      MELLO C M C/AU
E12            2      MELLO C M G/AU

=> s e3
L8           150 "MELLO C C"/AU

=> e fire a/au
E1             1      FIRDUS NEDZAD/AU
E2             2      FIRE/AU
E3           288 --> FIRE A/AU
E4             1      FIRE A */AU
E5            10      FIRE A Z/AU
E6           134      FIRE ANDREW/AU
E7             8      FIRE ANDREW Z/AU
E8             1      FIRE ANDY/AU
E9             1      FIRE C/AU
E10            2      FIRE D/AU
E11           23      FIRE E/AU
E12           11      FIRE ELLA/AU

=> s e3
L9           288 "FIRE A"/AU

=> e tabara h/au
E1             1      TABARA DAVID/AU
E2             5      TABARA ELEONORA/AU
E3           124 --> TABARA H/AU
E4            14      TABARA HIDEKI/AU
E5            30      TABARA HIROAKI/AU
E6             1      TABARA HIROKAI/AU
E7             7      TABARA HIROTO/AU
E8             1      TABARA HISAO/AU
E9             1      TABARA I/AU
E10            2      TABARA ISAO/AU
E11            1      TABARA ISTVAN/AU
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E12          7     TABARA J/AU

=> d e3-e6
'ACC' IS NOT VALID WITH MULTIFILE PROCESSING

DISPLAY ACC is not allowed in a multifile environment.  Enter
"DISPLAY HISTORY" to locate the file the L# was created in, use the
FILE command to enter that file, and re-enter the DISPLAY ACC
command.

=> s e3-e6
L10        169 ("TABARA H"/AU OR "TABARA HIDEKI"/AU OR "TABARA HIROAKI"/AU OR
               "TABARA HIROKAI"/AU)

=> e grishok a/au
E1           1     GRISHNYAK V G/AU
E2           2     GRISHNYAKOV S B/AU
E3          36 --> GRISHOK A/AU
E4           2     GRISHOK A A/AU
E5          27     GRISHOK ALLA/AU
E6           2     GRISHOK L P/AU
E7           1     GRISHOLD W/AU
E8           3     GRISHOM J/AU
E9           2     GRISHOV F I/AU
E10          1     GRISHOV VALERIJ A/AU
E11          9     GRISHOVA A I/AU
E12          1     GRISHOVA A N/AU

=> s e3-e5
L11         65 ("GRISHOK A"/AU OR "GRISHOK A A"/AU OR "GRISHOK ALLA"/AU)

=> d his

     (FILE 'HOME' ENTERED AT 16:04:58 ON 15 AUG 2006)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 16:05:27 ON 15 AUG 2006
L1        19848 S RNAI
L2           94 S "RDE-4" OR "RDE 4"
L3           84 S L1 AND L2
L4         1480 S DSRNA (W)BIND?
L5           13 S L3 AND L4
L6            3 DUP REM L5 (10 DUPLICATES REMOVED)
L7           24 DUP REM L3 (60 DUPLICATES REMOVED)
               E MELLO C C/AU
L8          150 S E3
               E FIRE A/AU
L9          288 S E3
               E TABARA H/AU
L10         169 S E3-E6
               E GRISHOK A/AU
L11          65 S E3-E5

=> s l8 or l9 or l10 or l11
L12        599 L8 OR L9 OR L10 OR L11

=> s l2 and l12
L13         36 L2 AND L12

=> dup rem l13
PROCESSING COMPLETED FOR L13
L14           9 DUP REM L13 (27 DUPLICATES REMOVED)

=> d 1-9 ibib ab
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L14 ANSWER 1 OF 9 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:380482 BIOSIS
DOCUMENT NUMBER: PREV200600385781
TITLE: RNAi beginnings, overview of the pathway in C-elegans.
AUTHOR(S): Grishok, Alla [Reprint Author]
CORPORATE SOURCE: MIT, Ctr Canc Res, 40 Ames St, Cambridge, MA 02139 USA
agrishok@mit.edu
SOURCE: Appasani, K [Editor]. (2005) pp. 17-28. RNA Interference Technology: From Basic Science to Drug Development. Publisher: CAMBRIDGE UNIV PRESS, 40 WEST 20TH ST, NEW YORK, NY 10011 USA.
ISBN: 0-521-83677-8(H).
DOCUMENT TYPE: Book; (Book Chapter)
LANGUAGE: English
ENTRY DATE: Entered STN: 2 Aug 2006
Last Updated on STN: 2 Aug 2006

L14 ANSWER 2 OF 9 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2005137829 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15741313
TITLE: Transcriptional silencing of a transgene by RNAi in the soma of C. elegans.
AUTHOR: Grishok Alla; Sinskey Jina L; Sharp Phillip A
CORPORATE SOURCE: Center for Cancer Research, McGovern Institute, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, USA.
CONTRACT NUMBER: P01-CA42063 (NCI)
P30-CA 14051 (NCI)
R37-GM34277 (NIGMS)
SOURCE: Genes & development, (2005 Mar 15) Vol. 19, No. 6, pp. 683-96. Electronic Publication: 2005-03-01.
Journal code: 8711660. ISSN: 0890-9369.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200504
ENTRY DATE: Entered STN: 17 Mar 2005
Last Updated on STN: 19 Apr 2005
Entered Medline: 18 Apr 2005

AB The silencing of transgene expression at the level of transcription in the soma of Caenorhabditis elegans through an RNAi-dependent pathway has not been previously characterized. Most gene silencing due to RNAi in C. elegans occurs at the post-transcriptional level. We observed transcriptional silencing when worms containing the elt-2::gfp/LacZ transgene were fed RNA produced from the commonly used L4440 vector. The transgene and the vector share plasmid backbone sequences. This transgene silencing depends on multiple RNAi pathway genes, including dcr-1, rde-1, rde-4, and rrf-1. Unlike post-transcriptional gene silencing in worms, elt-2::gfp/LacZ silencing is dependent on the PAZ-PIWI protein Alg-1 and on the HP1 homolog Hpl-2. The latter is a chromatin silencing factor, and expression of the transgene is inhibited at the level of intron-containing precursor mRNA. This inhibition is accompanied by a decrease in the acetylation of histones associated with the transgene. This transcriptional silencing in the soma can be distinguished from transgene silencing in the germline by its inability to be transmitted across generations and its dependence on the rde-1 gene. We therefore define this type of silencing as RNAi-induced Transcriptional Gene Silencing (RNAi-TGS). Additional chromatin-modifying components affecting RNAi-TGS were identified in a candidate RNAi screen.

L14 ANSWER 3 OF 9 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2005027594 MEDLINE

DOCUMENT NUMBER: PubMed ID: 15653635
TITLE: RDE-2 interacts with MUT-7 to mediate RNA interference in Caenorhabditis elegans.
AUTHOR: Tops Bastiaan B J; Tabara Hiroaki; Sijen Titia; Simmer Femke; Mello Craig C; Plasterk Ronald H A; Ketting Rene F
CORPORATE SOURCE: Hubrecht Laboratory, Centre for Biomedical Genetics Uppsalalaan 8, 3584 CT Utrecht, The Netherlands.
SOURCE: Nucleic acids research, (2005) Vol. 33, No. 1, pp. 347-55. Electronic Publication: 2005-01-13. Journal code: 0411011. E-ISSN: 1362-4962.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200502
ENTRY DATE: Entered STN: 19 Jan 2005
Last Updated on STN: 11 Feb 2005
Entered Medline: 10 Feb 2005

AB In Caenorhabditis elegans, the activity of transposable elements is repressed in the germline. One of the mechanisms involved in this repression is RNA interference (RNAi), a process in which dsRNA targets cleavage of mRNAs in a sequence-specific manner. The first gene found to be involved in RNAi and transposon silencing in C.elegans is mut-7, a gene encoding a putative exoribonuclease. Here, we show that the MUT-7 protein resides in complexes of approximately 250 kDa in the nucleus and in the cytosol. In addition, we find that upon triggering of RNAi the cytosolic MUT-7 complex increases in size. This increase is independent of the presence of target RNA, but does depend on the presence of RDE-1 and RDE-4, two proteins involved in small interfering RNA (siRNA) production. Finally, using a yeast two-hybrid screen, we identified RDE-2/MUT-8 as one of the other components of this complex. This protein is encoded by the rde-2/mut-8 locus, previously implicated in RNAi and transposon silencing. Using genetic complementation analysis, we show that the interaction between these two proteins is required for efficient RNAi in vivo. Together these data support a role for the MUT-7/RDE-2 complex downstream of siRNA formation, but upstream of siRNA mediated target RNA recognition, possibly indicating a role in the siRNA amplification step.

L14 ANSWER 4 OF 9 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2002364170 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12110183
TITLE: The dsRNA binding protein RDE-4 interacts with RDE-1, DCR-1, and a DExH-box helicase to direct RNAi in C. elegans.
AUTHOR: Tabara Hiroaki; Yigit Erbay; Siomi Haruhiko; Mello Craig C
CORPORATE SOURCE: Program in Molecular Medicine, University of Massachusetts Meidcal School, Worcester, MA 1605, USA.
CONTRACT NUMBER: GM58800 (NIGMS)
SOURCE: Cell, (2002 Jun 28) Vol. 109, No. 7, pp. 861-71. Journal code: 0413066. ISSN: 0092-8674.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF480439; GENBANK-AF480440; GENBANK-AY071926
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 12 Jul 2002
Last Updated on STN: 13 Aug 2002
Entered Medline: 12 Aug 2002

AB Double-stranded (ds) RNA induces potent gene silencing, termed RNA interference (RNAi). At an early step in RNAi, an RNaseIII-related

enzyme, Dicer (DCR-1), processes long-trigger dsRNA into small interfering RNAs (siRNAs). DCR-1 is also required for processing endogenous regulatory RNAs called miRNAs, but how DCR-1 recognizes its endogenous and foreign substrates is not yet understood. Here we show that the C. elegans RNAi pathway gene, rde-4, encodes a dsRNA binding protein that interacts during RNAi with RNA identical to the trigger dsRNA. RDE-4 protein also interacts in vivo with DCR-1, RDE-1, and a conserved DExH-box helicase. Our findings suggest a model in which RDE-4 and RDE-1 function together to detect and retain foreign dsRNA and to present this dsRNA to DCR-1 for processing.

L14 ANSWER 5 OF 9 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
DUPLICATE 4
ACCESSION NUMBER: 2001-10403 BIOTECHDS
TITLE: Novel RNA interference pathway genes and their protein products involved in mediation of genetic interference, useful for modulating and studying regulation of RNA interference pathway;
transgenic animal
AUTHOR: Mello C C; Fire A; Tabara H; Grishok A
PATENT ASSIGNEE: Univ.Massachusetts; Carnegie-Inst.Washington
LOCATION: Boston, MA, USA; Baltimore, MD, USA.
PATENT INFO: WO 2001029058 26 Apr 2001
APPLICATION INFO: WO 2000-US28470 13 Oct 2000
PRIORITY INFO: US 2000-193218 30 Mar 2000; US 1999-159776 15 Oct 1999
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2001-316239 [33]
AB An isolated nucleic acid (NA) molecule (I) comprising a nucleotide sequence encoding RNA interference pathway protein products RDE-1 and RDE-4 is claimed. NA encoding RDE-1 hybridizes under high stringency conditions to a NA sequence of Genbank Number AF180730 (of 3,207 bp, disclosed), GenBank Z83113.1 or their complements and NA encoding RDE-4 hybridizes with a sequence of 1,222 bp or its complement (disclosed). Also claimed are: a substantially pure RDE-1 or RDE-4 protein encoded by (I); an antibody specific for RDE-1 or RDE-4; enhancing expression of a transgene in a cell by reducing the activity of the RNA interference pathway; and inhibiting the activity of a gene by introducing RNA interference pathway agent into a cell where the ds RNA component of the RNA interference agent is targeted to the gene. Knockout strains of Caenorhabditis elegans containing the genes and antibodies are disclosed. RDE-1 protein comprises 1,020 amino acids (disclosed). RDE-1 and RDE-4 are prepared by recombinant techniques. (76pp)

L14 ANSWER 6 OF 9 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2001574258 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11680844
TITLE: Distinct roles for RDE-1 and RDE-4 during RNA interference in Caenorhabditis elegans.
AUTHOR: Parrish S; Fire A
CORPORATE SOURCE: Department of Embryology, Carnegie Institution of Washington, Baltimore, Maryland 21210, USA.
CONTRACT NUMBER: GM07231 (NIGMS)
GM37706 (NIGMS)
SOURCE: RNA (New York, N.Y.), (2001 Oct) Vol. 7, No. 10, pp. 1397-402.
Journal code: 9509184. ISSN: 1355-8382.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 30 Oct 2001
Last Updated on STN: 23 Jan 2002
Entered Medline: 4 Dec 2001

AB RNA interference (RNAi) is a cellular defense mechanism that uses double-stranded RNA (dsRNA) as a sequence-specific trigger to guide the degradation of homologous single-stranded RNAs. RNAi is a multistep process involving several proteins and at least one type of RNA intermediate, a population of small 21-25 nt RNAs (called siRNAs) that are initially derived from cleavage of the dsRNA trigger. Genetic screens in Caenorhabditis elegans have identified numerous mutations that cause partial or complete loss of RNAi. In this work, we analyzed cleavage of injected dsRNA to produce the initial siRNA population in animals mutant for rde-1 and rde-4, two genes that are essential for RNAi but that are not required for organismal viability or fertility. Our results suggest distinct roles for RDE-1 and RDE-4 in the interference process. Although null mutants lacking rde-1 show no phenotypic response to dsRNA, the amount of siRNAs generated from an injected dsRNA trigger was comparable to that of wild-type. By contrast, mutations in rde-4 substantially reduced the population of siRNAs derived from an injected dsRNA trigger. Injection of chemically synthesized 24- or 25-nt siRNAs could circumvent RNAi resistance in rde-4 mutants, whereas no bypass was observed in rde-1 mutants. These results support a model in which RDE-4 is involved before or during production of siRNAs, whereas RDE-1 acts after the siRNAs have been formed.

L14 ANSWER 7 OF 9 MEDLINE on STN
ACCESSION NUMBER: 2000207007 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10741970
TITLE: Genetic requirements for inheritance of RNAi in C. elegans.
AUTHOR: Grishok A; Tabara H; Mello C C
CORPORATE SOURCE: Program in Molecular Medicine, Department of Cell Biology, University of Massachusetts Cancer Center, Two Biotech Suite 213, 373 Plantation Street, Worcester, MA 01605, USA.
CONTRACT NUMBER: GM58800 (NIGMS)
SOURCE: Science, (2000 Mar 31) Vol. 287, No. 5462, pp. 2494-7. Journal code: 0404511. ISSN: 0036-8075.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY DATE: Entered STN: 21 Apr 2000
Last Updated on STN: 21 Apr 2000
Entered Medline: 11 Apr 2000

AB In Caenorhabditis elegans, the introduction of double-stranded RNA triggers sequence-specific genetic interference (RNAi) that is transmitted to offspring. The inheritance properties associated with this phenomenon were examined. Transmission of the interference effect occurred through a dominant extragenic agent. The wild-type activities of the RNAi pathway genes rde-1 and rde-4 were required for the formation of this interfering agent but were not needed for interference thereafter. In contrast, the rde-2 and mut-7 genes were required downstream for interference. These findings provide evidence for germ line transmission of an extragenic sequence-specific silencing factor and implicate rde-1 and rde-4 in the formation of the inherited agent.

L14 ANSWER 8 OF 9 EMBASE DUPLICATE 6
ACCESSION NUMBER: 2000123929 EMBASE
TITLE: Genetic requirements for inheritance of RNAi in C. elegans.
AUTHOR: Grishok A.; Tabara H.; Mello

C.C.
CORPORATE SOURCE: C.C. Mello, Program in Molecular Medicine, Department of Cell Biology, Univ. of Massachusetts Cancer Center, 373 Plantation Street, Worcester, MA 01605, United States. craig.mello@ummed.edu
SOURCE: Science, (31 Mar 2000) Vol. 287, No. 5462, pp. 2494-2497. . ISSN: 0036-8075 CODEN: SCIEAS
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 21 Apr 2000
Last Updated on STN: 21 Apr 2000

AB In Caenorhabditis elegans, the introduction of double-stranded RNA triggers sequence-specific genetic interference (RNAi) that is transmitted to offspring. The inheritance properties associated with this phenomenon were examined. Transmission of the interference effect occurred through a dominant extragenic agent. The wild-type activities of the RNAi pathway genes rde-1 and rde-4 were required for the formation of this interfering agent but were not needed for interference thereafter. In contrast, the rde-2 and mut-7 genes were required downstream for interference. These findings provide evidence for germ line transmission of an extragenic sequence-specific silencing factor and implicate rde-1 and rde-4 in the formation of the inherited agent.

L14 ANSWER 9 OF 9 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 2000004389 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10535731
TITLE: The rde-1 gene, RNA interference, and transposon silencing in C. elegans.
AUTHOR: Tabara H; Sarkissian M; Kelly W G; Fleenor J; Grishok A; Timmons L; Fire A; Mello C C
CORPORATE SOURCE: Department of Cell Biology, Program in Molecular Medicine, University of Massachusetts Cancer Center, Worcester 01605, USA.
CONTRACT NUMBER: GM37706 (NIGMS)
GM58800 (NIGMS)
HD08353 (NICHD)
SOURCE: Cell, (1999 Oct 15) Vol. 99, No. 2, pp. 123-32. Journal code: 0413066. ISSN: 0092-8674.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF180730
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 11 Jan 2000
Last Updated on STN: 11 Jan 2000
Entered Medline: 10 Nov 1999

AB Double-stranded (ds) RNA can induce sequence-specific inhibition of gene function in several organisms. However, both the mechanism and the physiological role of the interference process remain mysterious. In order to study the interference process, we have selected C. elegans mutants resistant to dsRNA-mediated interference (RNAi). Two loci, rde-1 and rde-4, are defined by mutants strongly resistant to RNAi but with no obvious defects in growth or development. We show that rde-1 is a member of the piwi/sting/argonaute/zwille/eIF2C gene family conserved from plants to vertebrates. Interestingly, several, but not all, RNAi-deficient strains exhibit mobilization of the endogenous transposons. We discuss implications for the mechanism of RNAi and the possibility that one natural function of RNAi is transposon silencing.

```
=> d his

     (FILE 'HOME' ENTERED AT 16:04:58 ON 15 AUG 2006)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 16:05:27 ON 15 AUG 2006
L1         19848 S RNAI
L2            94 S "RDE-4" OR "RDE 4"
L3            84 S L1 AND L2
L4          1480 S DSRNA (W)BIND?
L5            13 S L3 AND L4
L6             3 DUP REM L5 (10 DUPLICATES REMOVED)
L7            24 DUP REM L3 (60 DUPLICATES REMOVED)
                 E MELLO C C/AU
L8           150 S E3
                 E FIRE A/AU
L9           288 S E3
                 E TABARA H/AU
L10          169 S E3-E6
                 E GRISHOK A/AU
L11           65 S E3-E5
L12          599 S L8 OR L9 OR L10 OR L11
L13           36 S L2 AND L12
L14            9 DUP REM L13 (27 DUPLICATES REMOVED)
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2	L2	3582	rnai
3	L3	72	l1 same l2
4	L4	3551	dsRNA
5	L5	68	l3 same l4
6	L6	874256	clon$3 or express$3 or recombinant
7	L7	20	l5 same l6
8	L8	149319	MELLO TABARA GRISHOK FIRE
9	L9	67	l3 and l8

	Issue Date	Pages	Document ID	Title
1	20060209	13	US 20060030003 A1	Composition and method for introduction of RNA interference sequences into targeted cells and tissues
2	20060202	62	US 20060024798 A1	RNA interference pathway genes as tools for targeted genetic interference
3	20051124	61	US 20050260755 A1	Sequential delivery of oligomeric compounds
4	20051124	134	US 20050260652 A1	Compositions and methods that modulate RNA interference
5	20051124	12	US 20050260214 A1	Composition and method for introduction of RNA interference sequences into targeted cells and tissues
6	20051117	116	US 20050255487 A1	Methods and compositions for selecting siRNA of improved functionality
7	20051103	102	US 20050246794 A1	Functional and hyperfunctional siRNA
8	20051103	126	US 20050245475 A1	Functional and hyperfunctional siRNA directed against Bcl-2
9	20051103	51	US 20050244744 A1	Double stranded constructs comprising one or more short strands hybridized to a longer strand
10	20051020	59	US 20050234007 A1	RNA interference mediating small RNA molecules

	Issue Date	Pages	Document ID	Title
11	20051020	59	US 20050234006 A1	RNA interference mediating small RNA molecules
12	20051006	107	US 20050223427 A1	Modified polynucleotides for reducing off-target effects in RNA interference
13	20050915	159	US 20050203043 A1	Identification of toxic nucleotide sequences
14	20050825	105	US 20050186586 A1	Methods and compositions for enhancing the efficacy and specificity of RNAi
15	20050818	99	US 20050181382 A1	Methods and compositions for enhancing the efficacy and specificity of RNAi
16	20050630	172	US 20050142581 A1	Microrna as ligands and target molecules
17	20050616	68	US 20050130923 A1	4'-thionucleosides and oligomeric compounds
18	20050609	23	US 20050123952 A1	Methods of rapid detection and identification of bioagents using microRNA
19	20050602	45	US 20050119470 A1	Conjugated oligomeric compounds and their use in gene modulation
20	20050602	109	US 20050118605 A9	Oligomeric compounds having modified bases for binding to adenine and guanine and their use in gene modulation
21	20050512	61	US 20050100913 A1	RNA interference pathway genes as tools for targeted genetic interference

	Issue Date	Pages	Document ID	Title
22	20050414	214	US 20050080246 A1	Compositions comprising alternating 2'-modified nucleosides for use in gene modulation
23	20050331	5	US 20050069990 A1	R2D2: an enzyme of RNA silencing
24	20050317	49	US 20050059016 A1	Structural motifs and oligomeric compounds and their use in gene modulation
25	20050224	82	US 20050042647 A1	Phosphorous-linked oligomeric compounds and their use in gene modulation
26	20050217	110	US 20050037370 A1	Oligomeric compounds having modified bases for binding to adenine and guanine and their use in gene modulation
27	20050210	48	US 20050032069 A1	Oligomeric compounds having modified bases for binding to adenine and guanine and their use in gene modulation
28	20050210	50	US 20050032068 A1	Sugar and backbone-surrogate-containing oligomeric compounds and compositions for use in gene modulation
29	20050210	44	US 20050032067 A1	Non-phosphorous-linked oligomeric compounds and their use in gene modulation
30	20050203	63	US 20050026278 A1	RNA interference mediating small RNA molecules

	Issue Date	Pages	Document ID	Title
31	20050203	107	US 20050026160 A1	Compositions comprising alternating 2'-modified nucleosides for use in gene modulation
32	20041230	159	US 20040266707 A1	Stabilized polynucleotides for use in RNA interference
33	20041230	40	US 20040266706 A1	Cross-linked oligomeric compounds and their use in gene modulation
34	20041230	61	US 20040265839 A1	RNA interference pathway genes as tools for targeted genetic interference
35	20041223	63	US 20040259248 A1	RNA interference mediating small RNA molecules
36	20041223	60	US 20040259247 A1	Rna interference mediating small rna molecules
37	20041216	36	US 20040254358 A1	Phosphorous-linked oligomeric compounds and their use in gene modulation
38	20041118	60	US 20040229266 A1	RNA interference mediating small RNA molecules
39	20041111	57	US 20040224405 A1	siRNA induced systemic gene silencing in mammalian systems
40	20041014	77	US 20040203024 A1	Modified oligonucleotides for use in RNA interference
41	20041007	66	US 20040198640 A1	Stabilized polynucleotides for use in RNA interference
42	20040923	49	US 20040185479 A1	Modified oligonucleotides for use in gene modulation

	Issue Date	Pages	Document ID	Title
43	20040902	66	US 20040171570 A1	Polycyclic sugar surrogate-containing oligomeric compounds and compositions for use in gene modulation
44	20040902	69	US 20040171033 A1	2'-substituted oligomeric compounds and compositions for use in gene modulations
45	20040902	44	US 20040171032 A1	Non-phosphorous-linked oligomeric compounds and their use in gene modulation
46	20040902	49	US 20040171031 A1	Sugar surrogate-containing oligomeric compounds and compositions for use in gene modulation
47	20040902	50	US 20040171030 A1	Oligomeric compounds having modified bases for binding to cytosine and uracil or thymine and their use in gene modulation
48	20040902	46	US 20040171029 A1	2'-Fluoro substituted oligomeric compounds and compositions for use in gene modulations
49	20040902	63	US 20040171028 A1	Phosphorous-linked oligomeric compounds and their use in gene modulation
50	20040819	50	US 20040161844 A1	Sugar and backbone-surrogate-containing oligomeric compounds and compositions for use in gene modulation

	Issue Date	Pages	Document ID	Title
51	20040819	78	US 20040161777 A1	Modified oligonucleotides for use in RNA interference
52	20040729	40	US 20040147470 A1	Cross-linked oligomeric compounds and their use in gene modulation
53	20040729	66	US 20040147023 A1	Chimeric oligomeric compounds and their use in gene modulation
54	20040729	58	US 20040147022 A1	2'-methoxy substituted oligomeric compounds and compositions for use in gene modulations
55	20040729	49	US 20040146902 A1	Structural motifs and oligomeric compounds and their use in gene modulation
56	20040715	35	US 20040137572 A1	Compositions and methods for generating conditional knockouts
57	20040715	41	US 20040137490 A1	Methods for making polynucleotide libraries, polynucleotide arrays, and cell libraries for high-throughput genomics analysis
58	20040506	35	US 20040086911 A1	Inhibition of gene expression in vertebrates using double-stranded RNA (RNAi)
59	20040304	38	US 20040045043 A1	Compositions and methods for generating conditional knockouts

	Issue Date	Pages	Document ID	Title
60	20040122	87	US 20040014957 A1	Oligonucleotides having modified nucleoside units
61	20040122	55	US 20040014108 A1	Oligonucleotides having modified nucleoside units
62	20040115	18	US 20040010130 A1	Recombinant gene containing inverted repeat sequence and utilization thereof
63	20030731	40	US 20030143597 A1	Methods for making polynucleotide libraries, polynucleotide arrays, and cell libraries for high-throughput genomics analysis
64	20030619	22	US 20030114409 A1	Facilitation of RNA interference
65	20030612	37	US 20030108923 A1	RNA sequence-specific mediators of RNA interference
66	20020704	31	US 20020086356 A1	RNA sequence-specific mediators of RNA interference
67	20060718	67	US 7078196 B2	RNA interference mediating small RNA molecules
68	20060606	65	US 7056704 B2	RNA interference mediating small RNA molecules

	Issue Date	Pages	Document ID	Title
1	20060209	13	US 20060030003 A1	Composition and method for introduction of RNA interference sequences into targeted cells and tissues
2	20060202	62	US 20060024798 A1	RNA interference pathway genes as tools for targeted genetic interference
3	20051124	134	US 20050260652 A1	Compositions and methods that modulate RNA interference
4	20051117	116	US 20050255487 A1	Methods and compositions for selecting siRNA of improved functionality
5	20051103	102	US 20050246794 A1	Functional and hyperfunctional siRNA
6	20051103	126	US 20050245475 A1	Functional and hyperfunctional siRNA directed against Bcl-2
7	20051006	107	US 20050223427 A1	Modified polynucleotides for reducing off-target effects in RNA interference
8	20050915	159	US 20050203043 A1	Identification of toxic nucleotide sequences
9	20050512	61	US 20050100913 A1	RNA interference pathway genes as tools for targeted genetic interference
10	20050331	5	US 20050069990 A1	R2D2: an enzyme of RNA silencing
11	20041230	159	US 20040266707 A1	Stabilized polynucleotides for use in RNA interference

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12	20041230	61	US 20040265839 A1	RNA interference pathway genes as tools for targeted genetic interference
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14	20041007	66	US 20040198640 A1	Stabilized polynucleotides for use in RNA interference
15	20040715	35	US 20040137572 A1	Compositions and methods for generating conditional knockouts
16	20040715	41	US 20040137490 A1	Methods for making polynucleotide libraries, polynucleotide arrays, and cell libraries for high-throughput genomics analysis
17	20040304	38	US 20040045043 A1	Compositions and methods for generating conditional knockouts
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19	20030731	40	US 20030143597 A1	Methods for making polynucleotide libraries, polynucleotide arrays, and cell libraries for high-throughput genomics analysis
20	20030619	22	US 20030114409 A1	Facilitation of RNA interference

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1	20060629	33	US 20060143737 A1	Method of controlling gene silencing using site specific recombination
2	20060209	13	US 20060030003 A1	Composition and method for introduction of RNA interference sequences into targeted cells and tissues
3	20060202	62	US 20060024798 A1	RNA interference pathway genes as tools for targeted genetic interference
4	20051124	61	US 20050260755 A1	Sequential delivery of oligomeric compounds
5	20051124	134	US 20050260652 A1	Compositions and methods that modulate RNA interference
6	20051124	12	US 20050260214 A1	Composition and method for introduction of RNA interference sequences into targeted cells and tissues
7	20051117	116	US 20050255487 A1	Methods and compositions for selecting siRNA of improved functionality
8	20051103	102	US 20050246794 A1	Functional and hyperfunctional siRNA
9	20051103	126	US 20050245475 A1	Functional and hyperfunctional siRNA directed against Bcl-2

10	20051103	51	US 20050245474 A1	Double stranded constructs comprising one or more short strands hybridized to a longer strand

	Issue Date	Pages	Document ID	Title
11	20051020	59	US 20050234007 A1	RNA interference mediating small RNA molecules
12	20051020	59	US 20050234006 A1	RNA interference mediating small RNA molecules
13	20051006	107	US 20050223427 A1	Modified polynucleotides for reducing off-target effects in RNA interference
14	20050915	159	US 20050203043 A1	Identification of toxic nucleotide sequences
15	20050825	105	US 20050186586 A1	Methods and compositions for enhancing the efficacy and specificity of RNAi
16	20050818	99	US 20050181382 A1	Methods and compositions for enhancing the efficacy and specificity of RNAi
17	20050630	172	US 20050142581 A1	Microrna as ligands and target molecules
18	20050616	68	US 20050130923 A1	4'-thionucleosides and oligomeric compounds
19	20050609	23	US 20050123952 A1	Methods of rapid detection and identification of bioagents using microRNA
20	20050602	45	US 20050119470 A1	Conjugated oligomeric compounds and their use in gene modulation
21	20050602	109	US 20050118605 A9	Oligomeric compounds having modified bases for binding to adenine and guanine and their use in gene modulation

	Issue Date	Pages	Document ID	Title
22	20050512	61	US 20050100913 A1	RNA interference pathway genes as tools for targeted genetic interference
23	20050414	214	US 20050080246 A1	Compositions comprising alternating 2'-modified nucleosides for use in gene modulation
24	20050331	5	US 20050069990 A1	R2D2: an enzyme of RNA silencing
25	20050317	49	US 20050059016 A1	Structural motifs and oligomeric compounds and their use in gene modulation
26	20050224	82	US 20050042647 A1	Phosphorous-linked oligomeric compounds and their use in gene modulation
27	20050217	110	US 20050037370 A1	Oligomeric compounds having modified bases for binding to adenine and guanine and their use in gene modulation
28	20050217	12	US 20050037362 A1	Detection and quantification of siRNA on microarrays
29	20050210	48	US 20050032069 A1	Oligomeric compounds having modified bases for binding to adenine and guanine and their use in gene modulation
30	20050210	50	US 20050032068 A1	Sugar and backbone-surrogate-containing oligomeric compounds and compositions for use in gene modulation

31	20050210	44	US 20050032067 A1	Non-phosphorous-linked oligomeric compounds and their use in gene modulation

	Issue Date	Pages	Document ID	Title
32	20050203	63	US 20050026278 A1	RNA interference mediating small RNA molecules
33	20050203	107	US 20050026160 A1	Compositions comprising alternating 2'-modified nucleosides for use in gene modulation
34	20050106	26	US 20050003541 A1	ES cells having enhanced RNAi effect
35	20041230	159	US 20040266707 A1	Stabilized polynucleotides for use in RNA interference
36	20041230	40	US 20040266706 A1	Cross-linked oligomeric compounds and their use in gene modulation
37	20041230	61	US 20040265839 A1	RNA interference pathway genes as tools for targeted genetic interference
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